

## A MULTIDEPOSITION SACVD REACTOR

### ABSTRACT

There is disclosed a high throughput multideposition SACVD reactor that enables the

- 5 rapid thermal deposition of dielectric materials such as Si<sub>3</sub>N<sub>4</sub>, SiO<sub>2</sub>, and SiON and non-dielectric materials such as polysilicon onto a semiconductor substrate in the same chamber according to the desired sequence. Such a reactor has a processing chamber which is well adapted to single semiconductor wafer processing. The processing chamber includes an improved susceptor to support the wafer and a specific gas distribution system adapted to supply the different gases used in the deposition process and for cleaning. The improved susceptor consists of a standard carbon plate coated with a polysilicon film to protect it against said cleaning gases when they are aggressive to carbon. The present invention also encompasses a method of fabricating said improved susceptor.